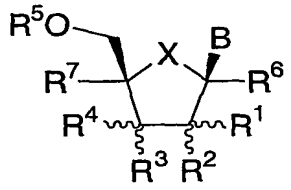
WHAT IS CLAIMED IS:

1. A compound of structural formula I:

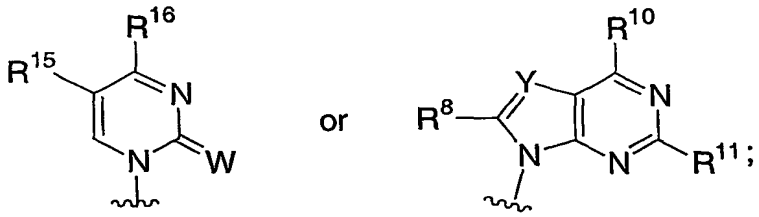


(I)

or a pharmaceutically acceptable salt thereof; wherein

n is 0, 1, or 2;

B is



X is $CH_2$, CHF, $CF_2$, or $C{=}CH_2$;

Y is N or C-$R^9$;

W is O or S;

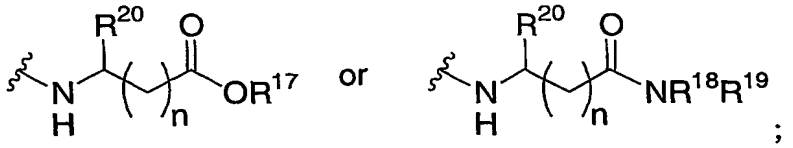
$R^1$ is $C_{2-4}$ alkenyl, $C_{2-4}$ alkynyl, or $C_{1-4}$ alkyl, wherein alkyl is unsubstituted or substituted with hydroxy, amino, $C_{1-4}$ alkoxy, $C_{1-4}$ alkylthio, or one to three fluorine atoms;

$R^2$ is hydrogen, fluorine, amino, hydroxy, mercapto, $C_{1-4}$ alkoxy, $C_{1-8}$ alkylcarbonyloxy, or $C_{1-4}$ alkyl;

$R^3$ and $R^4$ are each independently selected from the group consisting of hydrogen, cyano, azido, halogen, hydroxy, mercapto, amino, $C_{1-4}$ alkoxy, $C_{1-8}$ alkylcarbonyloxy, $C_{2-4}$ alkenyl, $C_{2-4}$ alkynyl, and $C_{1-4}$ alkyl, wherein alkyl is unsubstituted or substituted with hydroxy, amino, $C_{1-4}$ alkoxy, $C_{1-4}$ alkylthio, or one to three fluorine atoms;

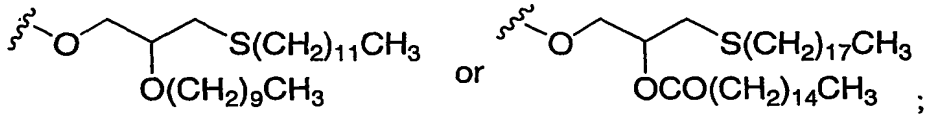
$R^5$ is hydrogen, $C_{1-10}$ alkylcarbonyl, $P_3O_9H_4$, $P_2O_6H_3$, or $P(O)R^{13}R^{14}$;

$R^6$ and $R^7$ are each independently hydrogen, methyl, hydroxymethyl, or fluoromethyl;
$R^8$ is hydrogen, $C_{1-4}$ alkyl, $C_{2-4}$ alkynyl, halogen, cyano, carboxy, $C_{1-4}$ alkyloxycarbonyl, azido, amino, $C_{1-4}$ alkylamino, di($C_{1-4}$ alkyl)amino, hydroxy, $C_{1-6}$ alkoxy, $C_{1-6}$ alkylthio, $C_{1-6}$ alkylsulfonyl, or ($C_{1-4}$ alkyl)$_{0-2}$ aminomethyl;
$R^9$ is hydrogen, halogen, cyano, nitro, $NHCONH_2$, $CONR^{12}R^{12}$, $CSNR^{12}R^{12}$, $COOR^{12}$, $C(=NH)NH_2$, hydroxy, $C_{1-3}$ alkoxy, amino, $C_{1-4}$ alkylamino, di($C_{1-4}$ alkyl)amino, or $C_{1-3}$ alkyl, wherein alkyl is unsubstituted or substituted with one to three groups independently selected from halogen, amino, hydroxy, carboxy, and $C_{1-3}$ alkoxy;
$R^{10}$ and $R^{16}$ are each independently hydrogen, hydroxy, mercapto, halogen, $C_{1-4}$ alkoxy, $C_{1-4}$ alkylthio, $C_{1-8}$ alkylcarbonyloxy, $C_{3-6}$ cycloalkylcarbonyloxy, $C_{1-8}$ alkyloxycarbonyloxy, $C_{3-6}$ cycloalkyloxycarbonyloxy, $-OCH_2CH_2SC(=O)C_{1-4}$ alkyl, $-OCH_2O(C=O)C_{1-4}$ alkyl, $-OCH(C_{1-4}$ alkyl$)O(C=O)C_{1-4}$ alkyl, amino, $C_{1-4}$ alkylamino, di($C_{1-4}$ alkyl)amino, $C_{3-6}$ cycloalkylamino, di($C_{3-6}$ cycloalkyl)amino, or an amino acyl residue having structural formula



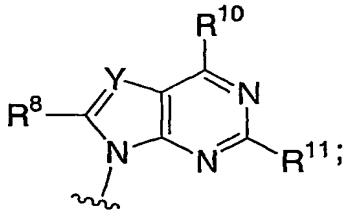

;

$R^{11}$ is hydrogen, hydroxy, halogen, $C_{1-4}$ alkoxy, amino, $C_{1-4}$ alkylamino, di($C_{1-4}$ alkyl)amino, $C_{3-6}$ cycloalkylamino, or di($C_{3-6}$ cycloalkylamino);
each $R^{12}$ is independently hydrogen or $C_{1-6}$ alkyl;
$R^{17}$, $R^{18}$, and $R^{19}$ are each independently hydrogen or $C_{1-6}$ alkyl;
$R^{13}$ and $R^{14}$ are each independently hydroxy, $-OCH_2CH_2SC(=O)C_{1-4}$ alkyl, $-OCH_2O(C=O)OC_{1-4}$ alkyl, $-NHCHMeCO_2Me$, $-OCH(C_{1-4}$ alkyl$)O(C=O)C_{1-4}$ alkyl,



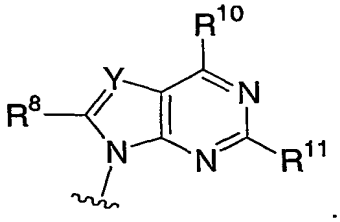

;

$R^{15}$ is hydrogen, $C_{1-6}$ alkyl, $C_{2-6}$ alkenyl, $C_{2-6}$ alkynyl, $C_{1-4}$ alkylamino, $CF_3$, or halogen; and
$R^{20}$ is hydrogen, $C_{1-4}$ alkyl, or phenyl $C_{0-2}$ alkyl;
with the proviso that when B is

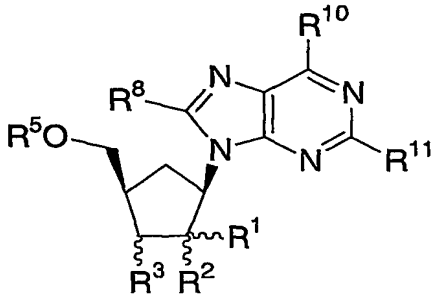


X is $CH_2$; Y is N; $R^{10}$ is $NH_2$; $R^2$ and $R^3$ are α-OH; and $R^4$, $R^5$, $R^6$, $R^7$, $R^8$, and $R^{11}$ are hydrogen, then $R^1$ is not β-methyl.

2. The compound of Claim 1 wherein B is



3. The compound of Claim 2 of structural formula II:



(II)

wherein

$R^1$ is $C_{1-3}$ alkyl, wherein alkyl is unsubstituted or substituted with one to three fluorine atoms;

$R^2$ is hydroxy, fluoro, $C_{1-3}$ alkoxy, or $C_{1-8}$ alkylcarbonyloxy;

$R^3$ is hydrogen, halogen, hydroxy, amino, $C_{1-3}$ alkoxy, or $C_{1-8}$ alkylcarbonyloxy;

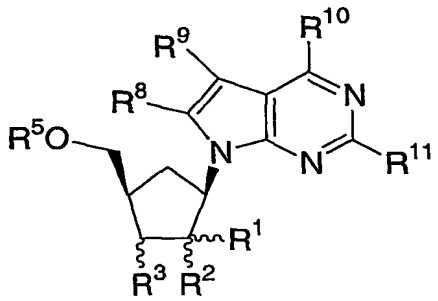
$R^5$ is hydrogen, $C_{1-8}$ alkylcarbonyl, $P_3O_9H_4$, $P_2O_6H_3$, or $PO_3H_2$;

$R^8$ is hydrogen, amino, or $C_{1-4}$ alkylamino; and

$R^{10}$ and $R^{11}$ are each independently hydrogen, halogen, hydroxy, amino, $C_{1-4}$ alkylamino, di($C_{1-4}$ alkyl)amino, or $C_{3-6}$ cycloalkylamino;
with the proviso that when $R^{10}$ is $NH_2$, $R^2$ and $R^3$ are α-OH, and $R^5$, $R^8$, and $R^{11}$ are hydrogen, then $R^1$ is not β-methyl.

4. The compound of Claim 3 wherein
$R^1$ is methyl, fluoromethyl, difluoromethyl, or trifluoromethyl;
$R^2$ is hydroxy, fluoro, or methoxy;
$R^3$ is hydrogen, fluoro, hydroxy, amino, or methoxy;
$R^5$ is hydrogen or $P_3O_9H_4$;
$R^8$ is hydrogen or amino; and
$R^{10}$ and $R^{11}$ are each independently hydrogen, fluoro, hydroxy, or amino;
with the proviso that when $R^{10}$ is $NH_2$, $R^2$ and $R^3$ are α-OH, and $R^5$, $R^8$, and $R^{11}$ are hydrogen, then $R^1$ is not β-methyl.

5. The compound of Claim 2 of structural formula III:




(III)

wherein
$R^1$ is $C_{1-3}$ alkyl, wherein alkyl is unsubstituted or substituted with one to three fluorine atoms;
$R^2$ is hydroxy, fluoro, $C_{1-3}$ alkoxy, or $C_{1-8}$ alkylcarbonyloxy;
$R^3$ is hydrogen, halogen, hydroxy, amino, $C_{1-3}$ alkoxy, or $C_{1-8}$ alkylcarbonyloxy;
$R^5$ is hydrogen, $C_{1-8}$ alkylcarbonyl, $P_3O_9H_4$, $P_2O_6H_3$, or $PO_3H_2$;
$R^8$ is hydrogen, amino, or $C_{1-4}$ alkylamino;
$R^9$ is hydrogen, cyano, methyl, halogen, $CONH_2$ or $CSNH_2$; and
$R^{10}$ and $R^{11}$ are each independently hydrogen, halogen, hydroxy, amino,

$C_{1-4}$ alkylamino, di($C_{1-4}$ alkyl)amino, or $C_{3-6}$ cycloalkylamino.

6. The compound of Claim 5 wherein

$R^1$ is methyl, fluoromethyl, difluoromethyl, or trifluoromethyl;

$R^2$ is hydroxy, fluoro, or methoxy;

$R^3$ is hydrogen, fluoro, hydroxy, amino, or methoxy;

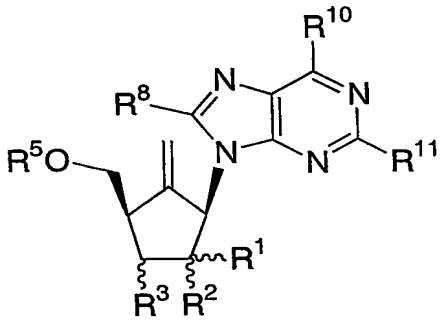
$R^5$ is hydrogen or $P_3O_9H_4$;

$R^8$ is hydrogen or amino;

$R^9$ is hydrogen, cyano, methyl, halogen, $CONH_2$ or $CSNH_2$; and

$R^{10}$ and $R^{11}$ are each independently hydrogen, fluoro, hydroxy, or amino.

7. The compound of Claim 2 of structural formula IV:



(IV)

wherein

$R^1$ is $C_{1-3}$ alkyl, wherein alkyl is unsubstituted or substituted with one to three fluorine atoms;

$R^2$ is hydroxy, fluoro, $C_{1-3}$ alkoxy, or $C_{1-8}$ alkylcarbonyloxy;

$R^3$ is hydrogen, halogen, hydroxy, amino, $C_{1-3}$ alkoxy, or $C_{1-8}$ alkylcarbonyloxy;

$R^5$ is hydrogen, $C_{1-8}$ alkylcarbonyl, $P_3O_9H_4$, $P_2O_6H_3$, or $PO_3H_2$;

$R^8$ is hydrogen, amino, or $C_{1-4}$ alkylamino; and

$R^{10}$ and $R^{11}$ are each independently hydrogen, halogen, hydroxy, amino, $C_{1-4}$ alkylamino, di($C_{1-4}$ alkyl)amino, or $C_{3-6}$ cycloalkylamino.

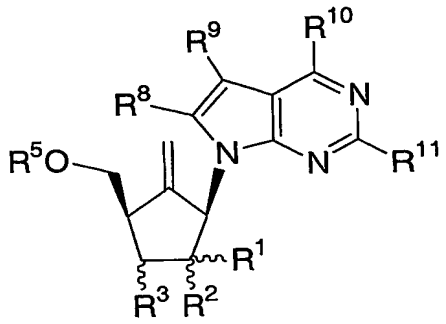
8. The compound of Claim 7 wherein

$R^1$ is methyl, fluoromethyl, difluoromethyl, or trifluoromethyl;

$R^2$ is hydroxy, fluoro, or methoxy;

$R^3$ is hydrogen, fluoro, hydroxy, amino, or methoxy;
$R^5$ is hydrogen or $P_3O_9H_4$;
$R^8$ is hydrogen or amino; and
$R^{10}$ and $R^{11}$ are each independently hydrogen, fluoro, hydroxy, or amino.

9. The compound of Claim 2 of structural formula V:




(V)

wherein
$R^1$ is $C_{1-3}$ alkyl, wherein alkyl is unsubstituted or substituted with one to three fluorine atoms;
$R^2$ is hydroxy, fluoro, $C_{1-3}$ alkoxy, or $C_{1-8}$ alkylcarbonyloxy;
$R^3$ is hydrogen, halogen, hydroxy, amino, $C_{1-3}$ alkoxy, or $C_{1-8}$ alkylcarbonyloxy;
$R^5$ is hydrogen, $C_{1-8}$ alkylcarbonyl, $P_3O_9H_4$, $P_2O_6H_3$, or $PO_3H_2$;
$R^8$ is hydrogen, amino, or $C_{1-4}$ alkylamino;
$R^9$ is hydrogen, cyano, methyl, halogen, $CONH_2$ or $CSNH_2$; and
$R^{10}$ and $R^{11}$ are each independently hydrogen, halogen, hydroxy, amino, $C_{1-4}$ alkylamino, di($C_{1-4}$ alkyl)amino, or $C_{3-6}$ cycloalkylamino.

10. The compound of Claim 9 wherein
$R^1$ is methyl, fluoromethyl, difluoromethyl, or trifluoromethyl;
$R^2$ is hydroxy, fluoro, or methoxy;
$R^3$ is hydrogen, fluoro, hydroxy, amino, or methoxy;
$R^5$ is hydrogen or $P_3O_9H_4$;
$R^8$ is hydrogen or amino;
$R^9$ is hydrogen, cyano, methyl, halogen, $CONH_2$ or $CSNH_2$; and
$R^{10}$ and $R^{11}$ are each independently hydrogen, fluoro, hydroxy, or amino.

11. The compound of Claim 2 selected from the group consisting of:

2-amino-7-[(1β,2αOH,3α,4β)-2,3-dihydroxy-4-hydroxymethyl-2-methyl-5-methylenecyclopentyl]-3,7-dihydro-4*H*-pyrrolo[2,3-d]pyrimidin-4-one;

2-amino-7-[(1R,2S,3R,4R)-2,3-dihydroxy-4-hydroxymethyl-2-methyl-5-methylenecyclopentyl]-3,7-dihydro-4*H*-pyrrolo[2,3-d]pyrimidin-4-one;

(1αOH,2α,3β,5β)-5-(4-amino-7*H*-pyrrolo[2,3-d]pyrimidin-7-yl)-3-hydroxymethyl-1-methyl-4- methylenecyclopentane-1,2-diol;

(1S,2R,3R,5R)-5-(4-amino-7*H*-pyrrolo[2,3-d]pyrimidin-7-yl)-3-hydroxymethyl-1-methyl-4- methylenecyclopentane-1,2-diol;

(1β,2αOH,3α,4β)-2-amino-9-[2,3-dihydroxy-4-(hydroxymethyl)-2-methyl-5-methylenecyclopentyl]-1,9-dihydro-6*H*-purin-6-one;

2-amino-9-[(1R,2S,3R,4R)-2,3-dihydroxy-4-(hydroxymethyl)-2-methyl-5-methylenecyclopentyl]-1,9-dihydro-6*H*-purin-6-one;

(1S,2R,3R,5R)-5-(6-amino-9*H*-purin-9-yl)-3-(hydroxymethyl)-1-methyl-4-methylenecyclopentane-1,2-diol;

(1αOH,2α,3β,5β)-5-(6-amino-9*H*-purin-9-yl)-3-(hydroxymethyl)-1-methyl-4-methylenecyclopentane-1,2-diol;

(1RS,2R,3R,5R)-5-(4-amino-7*H*-pyrrolo[2,3-*d*]pyrimidin-7-yl)-3-(hydroxymethyl)-1-methylcyclopentanediol-1,2-diol;

(1S,2R,3R,5R)-5-(4-amino-7*H*-pyrrolo[2,3-*d*]pyrimidin-7-yl)-3-(hydroxymethyl)-1-methylcyclopentanediol-1,2-diol;

(1RS,2R,3R,5R)-5-(6-amino-9*H*-purin-9-yl)-3-(hydroxymethyl)-1-methylcyclopentanediol-1,2-diol;

(1S,2R,3R,5R)-5-(6-amino-9*H*-purin-9-yl)-3-(hydroxymethyl)-1-methylcyclopentanediol-1,2-diol;

2-amino-9-[(1R,2RS,3R,4R)-2,3-dihydroxy-4-(hydroxymethyl)-2-methylcyclopentyl]-1,9-dihydro-6*H*-purin-6-one;

2-amino-9-[(1R,2S,3R,4R)-2,3-dihydroxy-4-(hydroxymethyl)-2-methylcyclopentyl]-1,9-dihydro-6*H*-purin-6-one;

2-amino-7-[(1R,2RS,3R,4R)-2,3-dihydroxy-4-(hydroxymethyl)-2-methylcyclopentyl]-3,7-dihydro-4*H*-pyrrolo[2,3-*d*]pyrimidin-4-one; and

2-amino-7-[(1R,2S,3R,4R)-2,3-dihydroxy-4-(hydroxymethyl)-2-methylcyclopentyl]-3,7-dihydro-4*H*-pyrrolo[2,3-*d*]pyrimidin-4-one;

and the corresponding 5'-triphosphates;
or a pharmaceutically acceptable salt thereof

12. A pharmaceutical composition comprising a compound of Claim 1 and a pharmaceutically acceptable carrier.

13. A method of treating RNA-dependent RNA virus infection comprising administering to a mammal in need of such treatment a therapeutically effective amount of a compound according to Claim 1.

14. The method of Claim 13 wherein said RNA-dependent RNA virus infection is a hepatitis C virus (HCV) infection.

15. The method of Claim 14 in combination with a therapeutically effective amount of another agent active against HCV.

16. The method of Claim 15 wherein said agent active against HCV is a 2'-*C*-Me-ribonucleoside; ribavirin; levovirin; thymosin alpha-1; interferon-β; an inhibitor of NS3 serine protease; an inhibitor of inosine monophosphate dehydrogenase; interferon-α or pegylated interferon-α, alone or in combination with ribavirin or levovirin.

17. The method of Claim 16 wherein said agent active against HCV is interferon-α or pegylated interferon-α, alone or in combination with ribavirin.

18. Use of a compound of Claim 1 for treatment of RNA-dependent RNA virus infection in a mammal.

19. The use of Claim 18 wherein said RNA-dependent RNA virus infection is HCV infection.

20. Use of a compound of Claim 1 in the manufacture of a medicament for treatment of RNA-dependent RNA virus infection in a mammal.

21. The use of Claim 20 wherein said RNA-dependent RNA virus infection is HCV infection.